File No.: G4-33125
WR Doc ID: 6359750

State of Washington
REPORT OF EXAMINATION
FOR WATER RIGHT APPLICATION

PRIORITY DATE	WATER RIGHT NUMBER
November 7, 2014	G4-33125

MAILING ADDRESS	SITE ADDRESS
Naches Valley School District P.O. Box 99 Naches, WA 98937	151 Bonlow Drive Naches, WA 98937

Quantity Authorized for Withdrawal

WITHDRAWAL RATE	UNITS	ANNUAL QUANTITY (AF/YR)
300	GPM	484

Purpose

PURPOSE	WITHDRAWAL RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Industrial (Heat Exchange)	300	-	GPM	484 (non-consumptive)		Continuous

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Yakima	Groundwater		38-Naches

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Well No. 1	17141012403	AAS-258	14N	17E	10	NWNE	46°43’25.13”N	120°41’7.78”W
Well No. 2		AAR-985				NWNE	46°43’25.02”N	120°41’4.34”W
Well No. 3		AAR-989				NENE	46°43’23.85”N	120°40’57.60”W

Datum: WGS84

Place of Use (See Map: Attachment 1)

PARCELS

17141012403

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

Yakima County Parcel No. 17141012403 located in the N½NE¼ Section 10, T. 14 N., R. 17 E.W.M., lying northeasterly of U.S. Highway 12, along with that portion of said parcel lying within the SW¼SE¼ and within the SE¼SW¼ of Section 3, T. 14 N., R. 17 E.W.M., lying northeasterly of U.S. Highway 12.

Proposed Works

The Naches Valley School District (NVSD) has applied for an appropriation of public groundwater from one well located approximately 1,000 feet northeast of the Naches River. The appropriation will be for a non-consumptive use in an open-loop groundwater source heat pump (GSHP) system. The proposed point of withdrawal (extraction well) is completed to a depth of 305 feet below ground surface (bgs) in a confined aquifer within the Ellensburg Formation. Groundwater will be withdrawn from the extraction well, passed through a non-contact heat exchange, then returned to the same aquifer through one of two injection wells, completed to depths of 248 and 300 feet bgs, located approximately 480 and 720 feet east (downgradient) of the extraction well.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Complete	December 31, 2016	December 31, 2021

Measurement of Water Use

How often must water use be measured?	Weekly
How often must water use data be reported to Ecology?	Annually (Jan 31)
What volume should be reported?	Total Annual Volume and Maximum Rate
What rate should be reported?	Annual Peak Rate of Withdrawal (gpm)

Provisions

Wells, Well Logs, and Well Construction Standards

All wells constructed in the state must meet the construction requirements of WAC 173-160 titled "Minimum Standards for the Construction and Maintenance of Wells" and RCW 18.104 titled "Water Well Construction". Installation and maintenance of an access port is required as described in WAC 173-160-291(3).

All wells must be tagged with a Department of Ecology unique well identification number. If you have an existing well and it does not have a tag, please contact the well-drilling coordinator at the regional Department of Ecology office issuing this decision. This tag must remain attached to the well. If you are required to submit water measuring reports, reference this tag number.

Measurements, Monitoring, Metering, and Reporting

An approved measuring device must be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173.

WAC 173-173 describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements.

Easement and Right-of-Way

The water source and/or water transmission facilities are not wholly located upon land owned by the applicant. Issuance of a water right authorization by Ecology does not convey a right of access to, or

other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.

Water Use Efficiency

Use of water under this authorization shall be contingent upon the water right holder's maintenance of efficient water delivery systems and use of up-to-date water conservation practices consistent with established regulation requirements and facility capabilities.

Proof of Appropriation

The water right holder shall file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the permit. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

Schedule and Inspections

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Findings of Facts

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that water is available from the source in question, that there will be no impairment of existing rights, that the purpose(s) of use are beneficial, and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. G4-33125, subject to existing rights and the provisions specified above.

YOUR RIGHT TO APPEAL

You have a right to appeal this Decision to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Decision. The appeal process is governed by chapter 43.21B RCW and chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this Decision:

- File your appeal and a copy of this Decision with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Decision on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in chapter 43.21B RCW and chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION	
Street Addresses	**Mailing Addresses**
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey WA 98503 **Pollution Control Hearings Board** 1111 Israel Road SW, Suite 301 Tumwater WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia WA 98504-0903

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov
To find laws and agency rules visit the Washington State Legislature Website: http://www.leg.wa.gov/CodeReviser

Signed at Union Gap, Washington, this _____ day of _____, 2016.

_____
Trevor Hutton, Section Manager
Water Resources Program
Central Regional Office

To request ADA accommodation including materials in a format for the visually impaired, call Ecology Water Resources Program at 360-407-6872. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

INVESTIGATOR'S REPORT

BACKGROUND

On November 7, 2014, Naches Valley School District (NVSD) filed an Application for a Water Right Permit (No. G4-33125) with the Washington State Department of Ecology (Ecology). The application requested an instantaneous withdrawal (Qi) of 300 gallons per minute (gpm) and a cumulative annual quantity (Qa) of 50 acre-feet per year (ac-ft/yr). The application was later amended to include up to 484 ac-ft/yr (Qa). The planned purpose of use is continuous (year-round) non-consumptive industrial use (heat exchange) in supplying non-contact cooling water to an open-loop groundwater source heat pump (GSHP).

The non-consumptive use of water in a GSHP is one design element to the new NVSD's Elementary School under construction in Naches, Washington. Groundwater will be withdrawn from one extraction well, passed through a non-contact heat exchanger and then returned to the same aquifer through one of two injection wells. The injection temperatures will fluctuate as a function of building load, and are anticipated to be approximately 13° F (7.2° C) higher during cooling days and about 13° F cooler during heating days. Total building energy use designs simulations indicate the annual cooling energy injected to the groundwater is more than offset by the heating energy extracted, which include approximately 198 days of heating and about 167 days of cooling each calendar year.

An open-loop GSHP system is a beneficial use of groundwater that meets the definition of non-consumptive use of groundwater provided by POL-1020 (Ecology, 1991), will not diminish water availability or quality, is water budget neutral with respect to Total Water Supply Available (TWSA), and meets the criterion for expedited review under Washington Administrative Code (WAC) 173-152-050(2)(c) and POL-2020 (Ecology, 2007). However, the Naches River is listed on the State's 303(d) listing as being impaired for temperature. High temperatures in the Naches River negatively affect bull trout spawning and rearing; summer salmonid habitat; and salmonid spawning, rearing, and migration. A Total Maximum Daily Load (TMDL) is also currently pending development for the Lower Naches River.

Following a pre-application meeting to discuss permitting requirements, a Preliminary Permit was issued by Ecology on January 26, 2015. The Preliminary Permit authorized NVSD to drill and test up to three water supply wells for the GSHP system. Although no formal water quality permit is required, Ecology reviews potential temperature impacts as part of the water right permitting process. Therefore, the objective of the testing performed under the Preliminary Permit was to obtain sufficient hydrogeologic and water quality data to support a decision on the water right application.

Table 1—Summary of Application No. G4-33125

Attributes	Proposed
Applicant	Naches Valley School District
Application Received	November 7, 2014
Instantaneous Rate	300 gallons per minute
Annual Quantity	484 ac-ft
Source	Groundwater

Table 1 – continued.

Attributes	Proposed
Point of Withdrawal	NW¼NE¼ and NE¼NE¼, Section 10, T. 14 N., R. 17 E.W.M.
Purpose of Use	Industrial (Heat Exchange)
Period of Use	Year-Round
Place of Use	Yakima County Parcel No. 17141012403

Legal Requirements for Application Processing

The following requirements must be met prior to processing a water right application:

- **Public Notice**

  Notice of the proposed appropriation was published in the *Yakima Herald Republic* of Yakima, Washington on October 6 and 13, 2015. No protests were received by Ecology during the 30-day comment period.

- **State Environmental Policy Act (SEPA)**

  A Final Mitigated Determination of Nonsignificance for the Naches Valley School District – Elementary School was issued on October 3, 2014. In the Environmental Checklist prepared on July 7, 2014, the open-loop GSHP system was considered as a possible use in the project.

- **Water Resources Statutes and Case Law**

  Chapter 90.03 and 90.44 RCW authorize the appropriation of public water for beneficial use and describes the process for obtaining a water right. Laws governing the water right permitting process are contained in RCW 90.03.250 through 90.03.340.

- **Expedited Processing**

  This application qualifies for expedited processing under WAC 173-152-050(2)(c), which states that within each regional office and among applications processed under chapter 90.90 RCW, Ecology may prioritize applications that propose a non-consumptive project and if approved would substantially enhance or protect the quality of the natural environment.

INVESTIGATION

In consideration of this application, Ecology reviewed available documents pertaining to the application's site conditions, project design documents, projected water usage and demand, and the potential effect on existing water right holders and water quality. This included information submitted by the applicant and pertinent Ecology records. Most notably, it included review of the test well Installation, Testing, and Hydrogeologic Impact Analysis Technical Memorandum (Aspect, 2015) submitted by the applicant.

Multiple site visits were performed during siting, drilling, and testing of the GSHP wells by Tyson Carlson and Jared Bean (Aspect Consulting). The site visits included oversight of drilling, logging of drill cuttings,

observation of pumping tests, in addition to inspection of the place of use and an interview with the applicant.

This project was presented at the Water Transfer Working Group (WTWG) on March 7, 1016. This group represents private, federal, state and tribal groups interested in water right changes in the Yakima Basin. No objections were received from the WTWG.

In light of the withdrawal of all remaining unappropriated waters of the Yakima River by the U.S. Bureau of Reclamation (USBR) – including all tributaries and groundwater in continuity (chapter 90.40 RCW), Ecology consulted with the USBR by email on March 11, 2016, about new appropriations, and it was determined that a release from the USBR was not required.

Project and Site Description

The new elementary school is located southeast of the Town of Naches, on the north side of Highway 12, approximately 0.5 mile west of Allan Road, along a newly constructed extension of Bonlow Drive. The new school is located in the NE¼ of Section 10, T. 14 N., R. 17 E.W.M., in the Naches Water Resource Inventory Area (WRIA 38), in Yakima County. The mainstem of the Naches River parallels the south side of Highway 12.

The proposed place of use is the new elementary school. The school is designed to meet the Washington Sustainable Schools Protocol. Strategies incorporated into the design include water conservation, use of regional materials, and energy efficiency, including use of an open-loop GSHP system.

The three GSHP wells (Well Nos. 1 through 3 with corresponding well tag numbers of AAS-258, AAR-985 and AAR-989) are completed with a 12-inch diameter casing with sections of 100-slot well screen to a total depth of 240 to 305 feet below ground surface (bgs). The wells are completed with multiple screen intervals totaling 50 feet, not including sections of blank casing separating screened intervals.

The extraction well (Well No. 1) is located on the upgradient (west) side of the property, about 550 feet northeast from the Naches River. The primary injection well (Well No. 3) is located on the inferred downgradient (east) side of the property, approximately 1,000 feet northeast of the Naches River. Well No. 2, which is located about mid-distance between Well Nos. 1 and 3, will serve as a backup injection well.

GSHP Design and Operation

The open-loop GSHP will use extraction and injection wells to withdraw and return groundwater for use as a heat source and sink. Groundwater will be withdrawn from an extraction well, passed through a non-contact heat exchange, then returned to the same aquifer through an injection well. The open-loop system is proposed to have no net consumptive use of groundwater.

Groundwater extraction temperatures are anticipated to seasonally fluctuate between 55 and 65 degrees Fahrenheit (° F), or about 12.8 and 18.3 degrees Centigrade (° C). The injection temperatures will fluctuate as a function of building load and are anticipated to be approximately 13° F (7.2° C) higher during cooling days and about 13° F cooler during heating days. These temperatures are anticipated to be reasonably steady as a result of varying the groundwater extraction/injection flow rates to the minimum required (<50 to 300 gpm) to maintain the building's heat pump water supply temperature between 65 and 95° F. Total building energy use simulations indicate the annual cooling energy injected to the groundwater is more than offset by the heating energy extracted. Simulated conditions include approximately 198 days of heating and about 167 days of cooling each calendar year.

Although the average annual quantity (Qa) is anticipated to be about 150 ac-ft/yr, for purposes of the water right application, the Qa was estimated assuming continuous operation of the GSHP at the maximum design rate (300 gpm), or about 484 ac-ft/yr. Direct metering data collected during the development schedule will quantify actual water use and inform the Proof of Appropriation prior to certification.

Surface Water Quality

The Naches River is listed on the State's 303(d) listing as being impaired for temperature. High temperatures in the Naches River negatively affect bull trout spawning and rearing; summer salmonid habitat; and salmonid spawning, rearing, and migration. A Total Maximum Daily Load (TMDL) has been finalized for the Upper Naches River and is currently pending development for the Lower Naches River, which includes the mainstem Naches River from River Mile (RM) 17.6 to the confluence with the Yakima River (RM 0) and all tributaries.

Ecology's Underground Injection Control (UIC) Program issued a "rule authorized" letter dated January 14, 2016. UIC rule authorization (approval) is granted for wells if the discharge water will not impair beneficial uses of groundwater or nearby surface water. Per chapter 173-218-100(d) WAC, injection of groundwater from a GSHP, which adds no chemicals or additives, by rule, automatically qualifies under the "non-endangerment" clause. Only temperature is affected prior to injection. Injection wells in hydraulic connection with surface water bodies or wells requiring a water right permit are not automatically rule authorized, and additional information is required for registration. This information (summarized below) was reviewed prior to issuing the authorization.

Preliminary Permit

A Preliminary Permit was issued by Ecology on January 26, 2015 authorizing NVSD to drill and test up to three water supply wells for the GSHP system. The objective of the testing performed under the Preliminary Permit was to obtain sufficient hydrogeologic and water quality data to support a decision on the water right application. This information is summarized in a test well (Well No. 3) Installation, Testing, and Hydrogeologic Impact Analysis Technical Memorandum (Aspect, 2015) and addendum (Aspect, 2016), which documented installation and testing of Well Nos. 1 and 2. The documents included a description of GSHP design and operation, regional geology, site hydrostratigraphic units, and information on groundwater-surface water continuity. The documents also describe the drilling, design, and testing of the GSHP wells, and included a numerical GSHP temperature impact analysis.

Based on the site-specific hydrogeologic conceptual model presented in the technical memoranda (Aspect, 2015 and 2016), it was determined that the three wells supporting the GSHP are completed in the Ellensburg Formation. The water-bearing intervals are isolated from overlying alluvium (and surface water) by a wide-spread depositional sheet of lower-permeability silt, clay, and fine-grained sandstone extending from the alluvium contact to about 145 feet bgs. Each of the wells were completed with an extended annular space well seal into sandstone.

Pumping tests were completed in each of the three GSHP wells. The pumping tests included a step-rate pumping test to evaluate well performance and yields, and a constant rate pumping or injection test to estimate aquifer parameters and longer-term sustainability. Reduction of the pumping test data from the extraction well (Well No. 1) indicates an aquifer transmissivity of 4,300 feet squared per day (feet^2/day). Evaluation of the injection test data (Well Nos. 2 and 3) yielded similar values for transmissivity of 4,500 and 2,900 feet^2/day, respectively. Further evaluation of pumping test data from each of the wells indicate confined aquifer conditions, with no apparent hydraulic boundary

conditions—including significant leakage from overlying aquifers or continuity with the nearby reach of the Naches River.

Carey (2007) reported that the adjacent reach of the Naches River is losing 59.4 cubic feet per second (cfs), or about 12.3 cfs per mile water as it enters a broadening alluvial fan. This losing condition is expected to continue until the next bedrock constriction located near the Suntides Golf Course (RM 3.7), where the Naches River gains a up to 95.1 cfs, or an average of 7.7 cfs/mile to the confluence with the Yakima River. Groundwater in the Ellensburg Formation near the NVSD is expected to discharge to the Naches River over 8 miles downgradient.

To evaluate the change in groundwater temperature and possible downgradient effects to the Naches River, numerical model simulations (Aspect, 2015) were run at a constant injection rate equal to the average design flowrate (90 gpm) for the entire year. Temperature model inputs for a single year mimicked those simulated during GSHP design, including: 5.6 C for 121 days (winter into spring), 20.0 C for 167 days (summer), and 5.6 C for 77 days (fall into winter).

This scenario was repeated, representing continuous GSHP operation for 10 consecutive years. Evaluation of the model results indicate that, after 10 years of continuous operation, elevated temperature (>12.8 C) impacts dissipate within 165 feet downgradient from Well No. 3. Following dissipation of elevated temperature, long-term cooling (about 12.2 C) of the groundwater is observed to 650 feet downgradient before groundwater temperatures return to background. Worst case simulations including the continuous operation of the GSHP system at the maximum design rate (300 gpm) for 10 years indicate that elevated temperature (>12.8 C) impacts dissipate within 285 feet downgradient, then a net cooling of groundwater to about 1,200 feet downgradient.

Based on this information, Aspect (2015) concluded that water-bearing zones of the Ellensburg Formation are physically and hydraulically isolated from the adjacent temperature-impaired reach of the Naches River, and injection of water from the GSHP system will not impair beneficial uses of groundwater or contribute additional temperature loading to nearby surface water. Moreover, the predicted long-term temperature effects are within—if not below—the natural variability of observed background groundwater temperatures at the NVSD site.

Four Statutory Tests

This Report of Examination evaluates the application based on the information presented above and in referenced documents. To approve the application, Ecology must issue written findings of fact and determine that each of the following four requirements of RCW 90.03.290 has been satisfied:

1. The proposed appropriation would be put to a beneficial use;
2. Water would be available for appropriation;
3. The proposed appropriation would not impair existing water rights; and
4. The proposed appropriation would not be detrimental to the public welfare.

Beneficial Use

In accordance with RCW 90.54.020(1) and POL-2020, the use of water as a source for heat or to dissipate heat is a beneficial use of water. This proposed appropriation will serve as the only source of water for the building's GSHP system and is classified, by definition, as industrial.

Availability

Based on the collective information summarized above, the quantity of water requested for use in this application is available for appropriation. The appropriation is defined as non-consumptive.

Groundwater withdrawals from the Ellensburg Formation will not impact long-term groundwater levels and are water budget neutral with respect to TWSA. Drawdown of the Ellensburg Formation near the extraction wells would be largely overcome by the close proximity of the injection wells and the high transmissivity of the formation, which would allow for rapid attenuation of groundwater.

Testing of the GSHP wells indicate a sustainable pumping rate in excess of the 300 gpm GSHP maximum design rate.

Potential for Impairment

RCW 90.03.290 and RCW 90.44.060 require a determination that a new appropriation will not impair existing rights.

The open-loop GSHP is non-consumptive – groundwater is withdrawn from the extraction well and injected within relatively close proximity (700 feet) into the same aquifer; therefore, the net hydraulic effect on the regional aquifer system is expected to be negligible.

During testing of Well No. 3, water levels were monitored at the closest permit-exempt water supply well (Ecology ID No. AGK-449) identified in the Ellensburg Formation, located approximately 420 feet south. Pumping of Well No. 3 for 24 hours resulted in 1.7 feet of interference drawdown in the observation well. The test well was open to the shallow water-bearing interval of the observation well (78 to 80 feet bgs) during testing, but later isolated following placement of the annular seal (0 to 87 feet bgs) during final well construction. Similarly, during testing of Well No. 1, only 11.6 feet of drawdown was observed in Well No. 2 and 7.1 feet of drawdown was observed in Well No. 3. During both tests, extraction rates were much higher than average GSHP operation (490 vs. 90 gpm) and water was not injected into the subsurface during testing; therefore, the observed interference drawdown is considered a worst case scenario.

No other groundwater water right permit or certificate is located closer than the permit-exempt observation well monitored during testing.

Based on these findings, we conclude that although small pumping interference effects are likely, no impairment of existing groundwater rights—either permitted or permit-exempt—will occur in the Ellensburg Formation aquifer with full use of the requested quantities.

In addition, because the deeper water-bearing zones of the Ellensburg Formation are physically and hydraulically isolated from nearby surface water, no impairment of surface water rights or Endangered Species Act-listed species (e.g., bull trout) will occur, and injection of water from the GSHP system will not impair beneficial uses of groundwater or contribute additional temperature loading to nearby surface water.

Public Welfare

No protests to the application were received.

The proposed appropriation will support the new Elementary School under construction for the Naches Valley School District. No detriment to the public welfare was identified.

CONCLUSIONS

The conclusions based on the above investigation are as follows:

1. The proposed appropriation for industrial use as non-contact cooling water in a GSHP is a beneficial use of water;
2. The quantity of water requested for non-consumptive use in this application is available for appropriation;
3. The proposed non-consumptive appropriation will not impair senior water rights and injection of water from the GSHP system will not impair beneficial uses of groundwater or contribute additional temperature loading to nearby surface water; and
4. The proposed appropriation will not be detrimental to the public welfare.

RECOMMENDATION

I recommend approval of the Application for Water Right No. G4-33125, and issuance of a permit to allow a non-consumptive appropriation of groundwater at a maximum instantaneous withdrawal rate (Qi) of 300 gpm and a cumulative annual volume (Qa) of 484 ac-ft/yr for Industrial Heat Exchange Use. The period of use would be year round.

Report Written by: _____ _____
Tyson D. Carlson, Aspect Consulting Date

Reviewed by: _____ _____
Scott Turner, Water Resources Program Date

To request ADA accommodation including materials in a format for the visually impaired, call Ecology Water Resources Program at 360-407-6872. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

CITATIONS

Aspect Consulting (Aspect), 2015, Well No. 3 Installation, Testing, and Hydrogeologic Impact Analysis, Naches Valley School District Groundwater Source Heat Pump, December 3, 2015.

Aspect Consulting (Aspect), 2016, Well Nos. 1 and 2 Installation and Testing Memorandum, Naches Valley School District Groundwater Source Heat Pump, January 14, 2016.

Carey, Barbara. *Groundwater-Surface Water Interactions along the Naches and Tieton Rivers, Summer and Fall 2004*. Washington Department of Ecology. January 2006 (revised August 2007). Publication No. 06-03-003.

Washington Department of Ecology (Ecology), 1991,Water Resources Program Policy POL-1020, Consumptive and Nonconsumptive Water Use, October 31, 1991.

Washington Department of Ecology (Ecology), 2004, Water Resources Program Policy POL-1021, Priority Processing – Water Budget Neutral Projects, January 21, 2004.

Washington Department of Ecology (Ecology), 2007, Water Resources Program Policy POL-2020, Priority Processing of Heat Pump Applications, May 14, 2007

Attachment 1